DOCUMENT RESUME

ED 128 367 TM 005 489

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TITLE Validation of ASVAB-2 Against Civilian Vocational-Technical High School Criteria.

INSTITUTION Air Force Human Resources Lab., Lackland AFB, Tex. Personnel Research Div.
SPONS AGENCY Air Force Human Resources Lab., Brooks AFB, Texas.
REPORT NO AFHRL-TR-76-16
PUB DATE Mar 76
NOTE 34p.; For related document, see ED 082 058

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Academic Achievement; *Aptitude Tests; Armed Forces; Grades (Scholastic); High School Students; Military Personnel; Multiple Regression Analysis; Predictive Ability (Testing); *Secondary Education; Statistical Data; *Technical Education; *Test Validity; *Vocational Aptitude; *Vocational Education
IDENTIFIERS Air Force; *Armed Services Vocational Aptitude Battery; ASVAB 2

ABSTRACT

In early 1966, the military services were directed to explore the feasibility of creating an aptitude test battery which would stimulate interest in military service, provide counselor and student information on vocational aptitudes, provide the services with information on enlistment prospects, establish mental qualifications for enlistment and induction, identify enlistment applicants for particular occupational or training systems, and classify and assign personnel. A working group consisting of personnel test experts from all of the military services was set up to study the feasibility of such a test battery, and to develop a prototype. The Armed Services Vocational Aptitude Battery (ASVAB) was developed from this effort. The essential purpose of the present study was to develop information on the relationship between performance of high school students on the subtests and composites of the ASVAB, and their subsequent performance in civilian vocational curricula. Approximately 4300 high school students took the ASVAB in 1973-74, and the validity of each subtest was established through multiple regression analysis of the test scores and the corresponding students' grades. (BW)

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VALIDATION OF ASVAB-2 AGAINST CIVILIAN VOCATIONAL-TECHNICAL HIGH SCHOOL CRITERIA

By

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March 1976

Final Report for Period July 1974 – February 1976

Approved for public release; distribution unlimited.

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This final report was submitted by Personnel Research Division, Air Force Human Resources Laboratory, Lackland Air Force Base, Texas 78236, under project 7719, with Hq Air Force Human Resources Laboratory (AFSC), Brooks Air Force Base, Texas 78235.

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Personnel Research Division

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HAROLD E. FISCHER, Colonel, USAF
Commander

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER: AFHRL-TR-76-16	2. GOVT ACCESSION NO. / 3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle): VALIDATION OF ASVAB-2 AGAINST CIVILIAN VOCATIONAL-TECHNICAL HIGH SCHOOL CRITERIA	5. TYPE OF REPORT & PERIOD COVERED: Final, July 1974 – February 1976
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): Harald E. Jensen, Lonnie D. Valentine, Jr.	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Personnel Research Division, Air Force Human Resources Laboratory, Lackland Air Force Base, Texas 78236	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: 62703F, 77191009
11. CONTROLLING OFFICE NAME AND ADDRESS: Hq Air Force Human Resources Laboratory (AFSC), Brooks Air Force Base, Texas 78235	12. REPORT DATE: March 1976
	13. NUMBER OF PAGES: 34
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)	15. SECURITY CLASS. (of this report): Unclassified
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

ASVAB
Civilian vocational courses
test battery
psychological testing

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This technical report presents the relationship between performance of high school students on the components and composites of the ASVAB-2 and their subsequent performance in civilian vocational-technical courses.

Applicability of current Air Force composites to specific vocational categories is also presented.

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

PREFACE

This work was performed under Project 7719, Air Force Personnel Systems Development on Selection, Assignment, Evaluation, Quality Control, Retention, Promotion, and Utilization; Task 771910, Armed Forces Operational Selection and Classification Programs.

The authors express their appreciation to the vocational-technical high schools which participated in this research and to Mr. Charles Greenway and Sgt David N. Westphal for their assistance with the computer programming and data analysis.

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VALIDATION OF ASVAB-2 AGAINST CIVILIAN VOCATIONAL-TECHNICAL HIGH SCHOOL CRITERIA

I. INTRODUCTION

Several years ago, the need for a common test battery for the services gained considerable attention in connection with the testing of high school seniors as part of the recruiting programs of the Army, Navy, Marine Corps, and Air Force. Since 1958, the Air Force had been administering the Airman Qualifying Examination (AQE) in a large number of high schools throughout the country. Test scores were made available to school counselors for use in student vocational guidance as well as to Air Force recruiters. As the Air Force's testing program began receiving more and more recognition, the Army and Navy sought to test in the high schools--each with its own test battery. Subsequently, the additional testing time required caused considerable school resistance. If testing in the high schools for recruiting purposes by all the services were to survive, the number of tests would have to be reduced.

In early 1966, the Assistant Secretary of Defense for Manpower and Reserve Affairs directed the military services to explore the feasibility of creating a common aptitude test battery which would serve the following purposes:

1. Stimulate interest in military service.

2. Provide counselor and student information on vocational aptitudes.

3. Provide services with information on enlistment prospects.

4. Establish mental qualifications for enlistment and induction.

5. Identify enlistment applicants for particular occupational or training systems.

6. Classification and assignment of personnel.

A working group consisting of personnel test experts from all of the military services was set up to study feasibility of such a test battery and to develop a prototype. The Armed Services Vocational Aptitude Battery (ASVAB) was developed from this effort.

Test and measurement personnel from the Army Research Institute, the Air Force Human Resources Laboratory, and the Navy Personnel Research and Development Center directed the development of the test battery toward the following:

1. Identifying interchangeable tests within the existing service classification batteries.

2. Developing tests for the joint battery from the pool of test items in the interchangeable components of the existing service batteries, and

3. Standardization of the resultant battery.

To establish interchangeability, all of the service classification batteries were administered to a joint sample made up of 1200 basic trainees each from the Army, Navy, and Air Force; and 300 trainees from the Marine Corps. For all 3900 subjects, testing was arranged for three separate days with one of the service batteries being administered on a given day. Moreover, the order of battery administration was counterbalanced to eliminate effect of test practice; i.e., each battery was administered first to about one-third of the subjects, second to about one-third, etc. From this total sample, a smaller sample stratified to represent a full range of ability was selected. This selection of a representative sample was necessary because of the effects of selection on the service trainee population.

From this representative sample, intercorrelations among all of the tests in the various service classification batteries were established. This resulted in identification of seven content areas which were interchangeable and two others which were needed to augment them. On the basis of these analyses, nine subtests were selected for inclusion in the Armed Services Vocational Aptitude Battery:

1. Coding Speed (CS) - Evaluates the examinee's ability to quickly and accurately assign coded numbers by relating them to specific words. It is designed to test clerical aptitude.

2. Word Knowledge (WK) - A test of verbal ability involving the definition of words. This is a classical vocabulary test involving non-technical terms.

3. Arithmetic Reasoning (AR) - Evaluates the examinee's ability to think through mathematical problems presented in verbal form. It involves the discovery and application of the general mathematical principles required to arrive at a correct solution to each problem as well as performance of the necessary calculations to attain the solutions.

4. Tool Knowledge (TK) - A pictorial test which requires the examinee to identify pictured tools and determine related items with which they are used.

5. Space Perception (SP) - Involves visualizing the folding of flat patterns into three-dimensional objects.

6. Mechanical Comprehension (MC) - Evaluates the ability of the examinee to determine the operating characteristics of mechanical devices.

7. Shop Information (SI) - Determines the examinee's previous knowledge about shop practices and the use of tools in specific situations.

8. Automotive Information (AI) - Designed to evaluate general knowledge about automobiles and automobile engines.

9. Electronics Information (EI) - Involves the ability to apply previously acquired knowledge in the areas of electricity and electronics toward the solution of problems in practical situations.

With the exception of the Coding Speed test which has 100 items, each of the ASVAB subtests contain 25 items.

The following are the five composites or aptitude areas (each formed by the linear combination of the subtests appropriate to the aptitude area) which are reported to the school counselor:

1. General-Technical

2. General Mechanical

3. Motor Mechanical

4. Clerical

5. Electronics

Both the composites and the nine individual test scores are reported in percentile metric. Each of the services presently has its own unique set of composites which are used for classification purposes, and these are computed and reported to the services only.

The essential purpose of the study presented in this technical report was to develop information on the relationship between performance of high school students on the subtests and composites of the ASVAB-2 and their subsequent performance in civilian vocational curricula, and to investigate the adequacy of the composites for school vocational training counseling.

II. METHOD OF VALIDATION

The sample used in this study consisted of a total of approximately 4,300 high school students located primarily in the northeastern sector of the country. Each of the students was enrolled in one of the 41 high school vocational-technical courses listed in Table A2 (appendix).

Each of the students had been administered ASVAB-2 during the 1973-74 school year and with the permission of the high schools participating in

the study, the Armed Services were provided the final grade for the specific vocational-technical course in which the students were enrolled. This information was collated with the students' ASVAB scores and the sample was divided into 41 subsamples. The validity of each subtest against each of the vocational-technical categories was established, and, through the use of multiple regression techniques (Ward & Jennings, 1973), multiple correlation of ASVAB scores and final vo-tech grade was also computed for each of the selected vo-tech categories.

III. RESULTS AND DISCUSSION

Table A1 of the appendix presents the means and standard deviations of the ASVAB subtests and final course grade for each of the vo-tech categories (collapsed across schools). Table A2 of the appendix reports the means and standard deviations of the ASVAB subtests and composites based upon a nationwide sample of 771,031 high school students.

A comparison of Table A1 with Table A2 indicates that some kind of selection process has been operating regarding the selection of the students into the vo-tech categories. For nearly every vo-tech category, the mean scores on the appropriate ASVAB subtests were substantially higher in the validation samples than for the general high school population. A typical example is that of the Auto Service vo-tech category for which the appropriate ASVAB subtests are Automotive Information and Mechanical Comprehension. The mean scores on each of these two tests in the validation sample were 16.84 and 13.58 respectively, whereas the mean scores for the general high school population were 11.48 and 12.51. Whether the restriction in range of abilities is due to self-selection, prerequisite training, or some other factor, we cannot be sure.

Table A3 (appendix) presents ASVAB subtest multiple correlations against vo-tech grades based upon the optimum weighting of all nine of the ASVAB subtests, the beta or standardized weights associated with each subtest, and the correlation of each subtest with the criterion. Each of the vo-tech categories was grouped according to aptitude composite. Of the 41 vo-tech categories included in the study, 20 obtained multiple correlation coefficients which were statistically significant beyond the .01 level; 5 were significant beyond the .05 level; and 16 were not statistically significant. In a previous ASVAB validation study involving the prediction of success in Air Force technical schools (Vitola, Mullins, & Croll, 1973), the predictive efficiency of the ASVAB was greater for all vo-tech categories. It is possible that a primary contributing factor in this difference in predictive efficiency lies both in the smaller N's used here and in the quality of the criterion data. Within the Air Force's Air Training Command, relative uniformity in the evaluation procedures exists within technical schools. In validating against civilian school criteria, a great deal of criterion heterogeneity is encountered because

several different vocational school systems are represented in the samples.

Table A4 of the appendix presents the multiple correlation coefficients based upon the optimum weighting of all nine of the ASVAB subtests, the beta (standardized) weights associated with each subtest, and the validity of each subtest against vo-tech grades (within category), with a further breakout by specific school. Thus, while the N's are generally quite small, these data remove the problem of criterion heterogeneity. From a comparison of Tables A3 and A4, it is apparent that the multiple correlations are considerably higher within each school.

Table 1 presents the average criterion correlation within schools for each ASVAB subtest for four broad aptitude clusters. Overall, Air Force aptitude composites appear to be appropriate when applied to the civilian training criterion as evidenced by the validity pattern in Table 1. This is particularly evident with the subtests forming the Mechanical and General aptitude areas, for each of the subtests included in each composite demonstrated greater validity than the other subtests. At first glance, it would appear that the Administrative composite should consist of Word Knowledge and Arithmetic Reasoning, but as this aptitude area was represented by only two vocational categories, additional investigation of other vo-tech categories within this aptitude area would be required before the current inclusion of Coding Speed can be considered inappropriate. Construction of the Electronics composite appears suitable though higher validities were reported for Mechanical Comprehension and Shop Information than either Arithmetic Reasoning or Space Perception.

Table 1. Average ASVAB Subtest Validities Within School

Aptitude Area	CS	WK	AR	TK	SP	MC	SI	AI	EI
Administrative	.18	.34	.34	-.07	.12	.18	-.01	.01	.06
Electronics	.21	.16	.23	.25	.26	.30	.35	.24	.37
Mechanical	.15	.16	.22	.30	.24	.27	.26	.26	.25
General	.28	.32	.32	.12	.31	.29	.18	.15	.24

For each vo-tech category, Table A5 (appendix) compares the predictive efficiency of the optimally weighted full ASVAB versus the appropriate ''selector'' composite alone. F-values are reported as well as the probability of obtaining each F-value through chance variation. The subtests which

comprise each selector composite are identified at the bottom of the table. Though the squared multiple correlations associated with many of the reduced models are rather low, this can be partly attributed to the unreliability of the criterion data in view of the fact that widespread differences exist in the quality of the facilities and the instruction among the vocational-technical schools. Thus, condensing several different schools within each of the vo-tech categories markedly increases the chance for error in predicting course grades.

With the vo-tech categories included in the Clerical, Electronics, General-Technical, and Motor Mechanical aptitude areas, the data indicates that for vocational and guidance counseling purposes, the ASVAB's utility is on par with the commercial aptitude batteries such as the General Aptitude Test Battery (GATB). Data representing the predictive validity of the ASVAB are generally more favorable than those typically reflected in research studies reported with the use of the GATB (U.S. Department of Labor, 1970).

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Vitola, B., Mullins, C., & Cross, P. Validity of Armed Services Vocational Aptitude Battery, Form 1, to Predict Technical School Success. AFHRL-TR-73-7, Lackland AFB, TX: Personnel Research Division, Air Force Human Resources Laboratory, July 1973. AD-767 578.

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APPENDIX A: STATISTICAL TABLES

Table A1. Means and Standard Deviations of the ASVAB (Form 2) and Final Course Grade for 41 Vocational-Technical Courses

Vo-Tech Category	N	CS	WK	AR	TK	SP	MC	SI	AI	EI	Final Grade	
Air Conditioning	47	36.28	11.74	10.17	15.17	12.49	13.74	15.32	14.79	15.32	2.32	Mean
		10.02	4.39	4.45	4.29	3.81	3.54	3.60	4.23	4.43	.77	SD
Appliance Repair	20	36.40	11.15	9.80	10.60	11.80	10.60	10.50	8.85	10.60	1.95	
		16.01	4.78	4.58	3.98	5.29	4.31	4.88	4.66	4.93	.92	
Auto Service	322	41.05	12.13	10.92	15.54	12.70	13.58	15.43	16.84	14.04	2.43	
		13.30	4.80	5.21	5.11	5.58	5.05	5.10	5.45	5.86	.96	
Aviation Mechanics	20	41.65	13.90	12.95	13.70	16.25	15.35	15.55	13.35	14.65	2.98	
		8.57	5.21	4.96	4.53	5.21	4.65	3.76	4.14	5.18	.85	
Body & Fender	46	39.20	10.70	9.83	15.07	11.41	12.13	14.02	15.41	12.35	2.40	
		10.22	4.32	4.89	4.04	4.28	4.36	4.79	5.47	4.50	.90	
Building Maintenance	24	38.63	11.46	9.58	15.92	12.67	12.75	14.63	12.50	11.96	2.50	
		14.21	6.68	5.44	4.48	4.68	4.74	4.72	5.61	5.13	.91	
Building Trades	39	38.49	10.79	9.95	14.33	9.64	12.03	13.90	13.28	11.38	2.82	
		7.94	3.38	3.92	4.20	5.70	3.96	4.96	4.55	5.62	.98	
Business Occupations	247	57.38	13.70	11.72	7.93	13.39	10.77	8.86	9.26	10.01	2.90	
		13.30	4.17	4.73	4.60	5.47	4.24	4.26	4.00	4.62	.92	
Carpentry	190	42.56	12.58	12.31	18.23	13.68	13.87	16.95	13.63	12.49	2.35	
		11.62	4.63	4.98	4.32	5.50	4.40	3.92	4.42	4.83	.92	
Child Care	71	55.24	13.82	10.48	6.34	12.34	9.99	7.28	7.83	6.72	3.04	
		19.08	4.63	4.98	3.94	5.23	3.74	3.81	3.98	4.67	.96	
Clerical Practices	312	54.13	13.62	11.79	7.44	13.19	10.72	8.42	7.87	8.46	2.47	
		15.29	3.89	4.50	4.01	5.40	4.26	3.95	3.73	4.70	.98	

(Continued)

Table A1 (Continued)

Vo-Tech Category	N	CS	WK	AR	TK	SP	MC	SI	AI	EI	Final Grade	
Conservation	22	53.50	15.64	13.23	11.82	13.00	13.59	13.09	10.36	11.73	2.41	Mean
		19.10	3.50	4.88	3.28	4.86	3.20	3.52	4.24	4.61	.83	SD
Cosmetology	117	54.03	12.30	10.02	7.30	11.38	10.15	8.21	8.72	8.99	2.94	
		15.48	4.09	3.89	4.61	4.66	3.64	4.10	3.95	5.09	.79	
Data Processing	122	49.25	13.46	13.11	9.19	13.79	12.10	10.66	9.29	9.60	3.11	
		14.42	4.24	4.94	6.07	5.40	4.91	4.97	5.34	6.15	.96	
Diesel Tractor Mechanics	22	42.68	12.36	13.05	18.86	14.50	15.45	16.14	19.50	14.00	2.36	
		11.95	4.08	3.27	4.41	4.41	3.61	3.38	2.74	3.85	.71	
Distributive Education	52	51.48	13.52	12.06	11.37	13.90	12.08	10.81	11.50	10.92	2.62	
		14.51	4.24	4.25	6.02	5.36	4.38	5.66	5.13	5.24	1.11	
Drafting	237	46.33	13.35	13.45	14.05	15.67	14.36	14.54	12.84	14.81	2.52	
		12.86	4.00	5.04	5.11	5.19	4.18	4.72	4.35	4.61	.95	
Electrical	392	43.71	12.89	13.12	15.05	13.95	14.21	14.84	13.90	18.31	2.44	
		12.81	3.99	4.99	5.27	5.29	4.23	4.64	5.18	5.22	.92	
Electronics	292	44.85	14.87	14.89	15.92	15.93	16.01	16.73	15.41	19.90	2.55	
		12.33	3.58	4.50	4.65	5.19	3.91	4.11	4.49	4.01	1.04	
Exploratory	301	34.51	10.11	9.12	9.49	10.23	9.64	10.12	8.70	7.88	2.58	
		9.07	4.47	4.75	5.58	5.24	4.87	5.16	5.05	5.96	.63	
Fashion Design	21	45.43	11.00	9.67	4.95	10.24	8.43	6.43	7.48	6.62	3.02	
		10.28	5.13	4.47	3.39	4.81	3.33	3.14	3.76	4.87	.76	
Food Service	163	49.25	13.56	11.71	9.94	13.23	11.31	9.70	9.40	9.14	3.03	
		16.87	4.25	5.29	4.98	5.68	4.90	4.78	5.00	5.88	.96	

(Continued)

Table A1 (Continued)

Vo-Tech Category	N	CS	WK	AR	TK	SP	MC	SI	AI	EI	Final Grade	
Graphic Arts	96	53.56	14.17	13.36	14.68	16.02	14.65	13.43	12.36	12.82	2.92	Mean
		18.50	4.56	5.35	5.16	4.62	4.14	5.81	5.12	6.44	.92	SD
Health	120	53.03	13.62	11.60	7.33	12.12	10.26	9.12	8.94	8.93	3.07	
		16.25	3.72	5.00	4.31	5.21	3.98	3.72	4.90	4.74	.74	
Household Arts	51	57.65	13.47	10.43	6.59	10.41	8.94	7.61	8.33	7.14	2.88	
		16.63	4.21	4.86	4.38	5.07	4.02	4.14	3.59	4.56	.68	
Jewelry & Ceramics	29	49.41	12.55	11.14	9.83	13.62	9.52	9.45	8.59	7.45	3.03	
		20.82	4.92	6.50	5.02	6.21	5.42	5.67	5.88	6.51	.76	
Journalism	36	52.14	15.64	14.14	11.00	14.28	13.19	10.56	9.25	11.61	3.00	
		16.97	3.95	4.95	5.98	5.35	3.94	4.28	4.60	5.53	.94	
Machine Shop	227	37.58	10.49	10.29	14.04	12.19	11.86	13.77	12.37	11.83	2.52	
		13.81	5.25	5.70	5.24	5.27	5.45	5.36	5.51	6.02	.94	
Maintenance Mechanic	27	36.44	11.15	10.70	10.04	10.04	8.33	10.26	7.59	7.81	1.93	
		15.35	4.35	4.71	5.01	4.78	4.71	3.49	4.58	4.82	1.09	
Masonry	95	40.03	11.33	10.92	13.86	12.00	11.82	12.74	10.79	10.37	2.53	
		9.76	4.08	4.32	4.57	4.88	4.40	4.35	4.87	5.16	.68	
Nursing	31	44.29	13.61	9.77	6.45	10.23	9.29	7.71	7.94	7.48	3.03	
		10.42	4.26	4.75	2.98	5.45	4.08	3.34	2.72	4.20	.78	
Painting & Decorating	25	47.84	15.56	13.92	12.68	16.72	13.52	12.16	10.76	13.00	3.08	
		12.97	3.67	5.89	5.62	4.00	3.70	5.03	5.34	6.32	.84	
Plumbing	45	46.62	12.93	13.62	18.93	14.80	14.20	16.29	14.16	14.98	2.84	
		12.79	3.80	5.12	4.20	4.57	4.33	3.56	3.53	3.70	.78	

(Continued)

Table A1 (Continued)

Vo-Tech Category	N	CS	WK	AR	TK	SP	MC	SI	AI	EI	Final Grade	
Printing	26	37.69	12.96	10.42	12.38	11.04	12.00	13.00	12.58	11.27	2.04	Mean
		10.44	4.68	4.60	6.45	5.81	5.19	5.17	4.28	4.90	.65	SD
Restaurant Management	32	40.25	10.88	9.06	11.47	11.06	9.69	11.31	10.19	8.03	2.22	
		14.05	5.45	5.34	5.56	6.50	4.96	5.28	5.13	5.96	.89	
Small Engine Repair	77	38.17	12.22	10.74	13.97	12.29	13.03	14.39	12.48	12.66	2.19	
		16.53	4.58	4.63	5.46	6.45	4.59	4.55	5.24	5.88	1.14	
Tailor	99	53.70	14.35	12.93	8.53	14.71	12.11	8.59	8.10	8.68	3.27	
		16.23	4.38	6.00	4.67	5.60	4.34	4.51	3.91	4.82	.86	
Welding	85	37.84	10.85	10.31	15.61	11.48	12.08	15.01	14.46	13.44	2.69	
		11.74	4.83	5.22	4.12	5.54	5.17	4.91	5.02	5.39	.97	
Wood & Metal	171	45.88	12.29	12.33	16.13	14.30	14.24	15.57	13.42	14.56	2.90	
		16.95	4.36	4.98	4.40	5.15	4.17	4.88	4.93	5.22	1.01	

Table A2. Means and Standard Deviations of ASVAB Scores
Nationwide Sample for School Year 73-74 (N = 771,031)

ASVAB Subtest	Mean	Standard Deviations
Coding Speed (CS)	48.55	14.04
Word Knowledge (WK)	13.78	4.99
Arithmetic Reasoning (AR)	13.29	5.85
Tool Knowledge (TK)	10.98	6.17
Space Perception (SP)	13.45	5.69
Mechanical Comprehension (MC)	12.51	5.05
Shop Information (SI)	11.60	5.48
Automotive Information (AI)	11.48	5.20
Electronics Information (EI)	11.16	5.68
ASVAB Composite		
Electronics = MC + 2EI	35.44	14.29
General Mechanical = SP + 2SI	36.91	13.89
Motor Mechanical = MC + 2AI	35.79	13.28
Clerical = WK + CS/3	29.74	7.65
General Technical = WK + AR	27.33	9.28

Table A3. Multiple R's, Beta Weights, and Validities

Vo-Tech Category	N	Multiple R	CS	WK	AR	TK	SP	MC	SI	AI	EI	
Clerical												
Business Occupations	247	.38**	.19	.19	.19	-.21	-.01	-.06	-.03	.16	.05	Beta Weight
			.19	.24	.24	-.14	.08	.09	.01	.05	.05	Validity
Clerical Practices	312	.45**	.15	.11	.26	-.12	-.02	.12	-.12	.07	.04	
			.24	.27	.36	-.02	.21	.23	-.01	.13	.16	
Electronics												
Electrical	392	.45**	.19	-.04	.09	-.02	.06	.02	.12	.01	.21	
			.29	.17	.27	.27	.27	.27	.32	.27	.38	
Electronics	292	.32	.13	.06	.10	.14	-.09	.03	.14	-.12	.05	
			.16	.15	.18	.22	.13	.18	.22	.09	.19	
General Mechanical												
Air Conditioning	47	.31	.12	.18	-.13	.17	-.20	.06	.03	.01	-.19	
			.11	.08	-.07	.05	-.17	-.02	.06	.04	-.07	
Appliance Repair	20	.93**	.30	-.78	.23	-.47	.51	.16	.21	.16	.16	
			.41	-.29	.19	.17	.70	.32	.33	.33	.07	
Body & Fender	46	.68**	.05	-.01	.10	.68	-.02	.08	-.14	.06	-.02	
			.08	.08	.22	.67	.37	.23	.22	.22	.32	
Building Maintenance	24	.56	.47	.01	-.33	.17	.12	.17	-.03	-.21	.15	
			.33	.15	.04	.31	.20	.40	.13	.02	.24	
Building Trades	39	.42	-.11	.25	.01	.25	-.16	-.04	.23	.02	.02	
			.01	.23	.11	.28	.09	.17	.28	.21	.25	
Carpentry	190	.32*	.04	-.07	-.22	.03	-.02	.05	.12	.05	.21	
			.05	.03	-.05	.17	.07	.13	.19	.17	.22	

(Continued)

Table A3 (Continued)

Vo-Tech Category	N	Multiple R	CS	WK	AR	TK	SP	MC	SI	AI	EI	
Cosmetology	117	.54**	.24	.20	.24	-.14	.02	.15	.08	-.02	-.10	Beta Weight
			.31	.34	.39	.05	.22	.32	.16	.06	.05	Validity
Data Processing	93	.54**	.08	.08	-.01	-.25	.22	.17	-.01	-.10	.41	
			.26	.25	.31	.17	.39	.38	.20	.21	.36	
Distributive Education	52	.49	.07	.37	-.37	-.31	.06	.15	.21	.11	.05	
			.18	.34	.03	.02	.13	.19	.25	.17	.26	
Drafting	237	.51**	.14	.01	.08	.02	.29	.06	-.01	-.02	.06	
			.31	.26	.35	.26	.47	.38	.25	.17	.31	
Exploratory	301	.47**	.25	.22	.06	.08	.10	.01	-.10	.01	.09	
			.31	.37	.29	.15	.24	.24	.15	.18	.24	
Fashion Design	21	.77	.07	.54	-.33	.35	-.04	-.14	.26	-.28	-.15	
			.18	.55	.01	.52	.34	.31	.29	-.34	.01	
Food Service	163	.49**	.29	.19	-.02	-.11	.21	.02	.01	.02	.02	
			.38	.31	.23	-.01	.28	.21	.09	.15	.18	
Graphic Arts	96	.58**	-.00	-.13	.02	.05	.31	.23	.14	-.24	.20	
			.09	.13	.26	.35	.49	.43	.34	.19	.39	
Health Occupations	120	.61**	.33	.42	.16	.07	-.17	-.02	-.05	-.01	.17	
			.35	.41	.31	.21	.17	.16	.07	.27	.35	
Horticulture	22	.71	.30	-.07	.01	.30	.63	-.16	-.26	.10	-.28	
			.39	.11	.37	.10	.53	.26	-.09	-.07	-.15	
Household Arts	51	.57	.40	.01	.21	-.14	-.17	.13	.17	.06	.01	
			.45	.30	.30	-.01	.05	.23	.22	.17	.23	
Jewelry & Ceramics	29	.69	-.28	.41	-.43	-.14	-.12	-.19	.82	-.22	.45	
			.03	.33	.08	.19	.13	.24	.49	.26	.28	

(Continued)

Table A3 (Continued)

Vo-Tech Category	N	Multiple R	CS	WK	AR	TK	SP	MC	SI	AI	EI	
Machine Shop	227	.40**	.03	-.06	.18	.31	-.09	-.08	-.09	.25	-.06	Beta Weight
			.11	.08	.18	.33	.08	.15	.18	.29	.14	Validity
Maintenance Mechanic	27	.79*	.38	.26	.09	.35	.53	.17	-.16	-.57	-.23	
			.27	.34	.32	.07	.52	.24	.01	-.14	.10	
Masonry	95	.49**	.28	-.32	.01	.31	.06	-.04	-.23	-.09	.11	
			.29	-.25	.01	.19	.07	-.02	-.10	.06	.01	
Painting & Decorating	25	.81*	.04	.38	.51	.44	-.25	.23	.11	-.47	-.48	
			.29	.58	.60	.12	.18	.33	-.01	-.11	-.03	
Plumbing	45	.49	.03	.16	-.04	.20	-.07	.07	.14	.22	-.13	
			-.03	.28	-.03	.30	.14	.27	.39	.39	.12	
Printing	26	.44	.17	-.24	.39	.32	-.34	-.01	.26	-.01	-.14	
			.06	.06	.21	.22	-.03	.13	.17	.17	.11	
Welding	85	.64**	.05	-.04	.16	.15	-.04	-.03	.32	-.03	.23	
			.44	.39	.44	.41	.21	.40	.57	.43	.54	
Wood & Metal	171	.30	.04	-.03	.03	.27	-.08	.01	-.03	-.02	.12	
			.11	.05	.13	.28	.10	.15	.19	.17	.21	
General Technical												
Child Care	71	.39	.25	.17	-.05	.06	.16	-.11	-.08	.03	.12	
			.26	.25	.13	.10	.22	.11	.11	.18	.20	
Commercial Art	21	.82	.16	.24	-.14	-.51	.26	-.10	.44	.61	-.28	
			.29	.31	.25	-.10	.43	.42	.49	.43	.02	
Conservation	22	.59	-.19	.18	.39	-.16	.18	-.27	.08	-.36	.28	
			.02	.27	.39	-.04	.29	.06	.10	-.01	.27	

(Continued)

Table A3 (Continued)

Vo-Tech Category	N	Multiple R	CS	WK	AR	TK	SP	MC	SI	AI	EI	
Journalism	36	.80**	.01	.01	.05	-.18	.15	.63	-.40	-.10	.44	Beta Weight
			.04	.41	.42	.14	.46	.63	.03	.22	.49	Validity
Nursing	31	.79**	.43	.30	.17	.02	.30	-.21	.36	.01	-.02	
			.59	.53	.47	.17	.33	.35	.32	.23	.35	
Restaurant Management	32	.59	-.11	.46	-.28	-.30	.17	-.01	.37	.10	-.17	
			.06	.38	.10	-.10	.28	.39	.36	.35	.23	
Tailor	99	.60**	.13	.07	.28	-.16	.09	.09	-.13	.12	.19	
			.36	.38	.52	.07	.31	.31	.08	.27	.42	
Motor Mechanical												
Auto Service	322	.46**	.11	-.01	.04	.10	.11	.06	.03	.16	.01	
			.29	.28	.30	.36	.34	.38	.34	.38	.34	
Aviation Mechanics	20	.73	-.24	-.27	-.40	-.37	-.43	.40	.60	-.10	.76	
			.10	-.06	.04	.19	.29	.36	.66	.22	.45	
Diesel Tractor Mechanic	22	.82**	-.14	.14	.27	.16	-.13	.52	.46	-.10	-.27	
			.04	.25	.42	.36	.22	.64	.53	.09	.28	
Small Engine Repair	77	.51**	.14	-.06	.29	.19	.13	-.13	-.11	.09	.18	
			.31	.15	.34	.28	.37	.28	.26	.31	.31	

*Significant at .05 level
**Significant at .01 level

Table A4. Multiple R's, Beta Weights, and Validities Within School by Vo-Tech Category

School Code	N	Multiple R		CS	WK	AR	TK	SP	MC	SI	AI	EI
						Air Conditioning						
7453	47	.31	Beta Weight	.12	.18	-.13	.17	-.20	.06	.03	.00	-.19
			Validity	.11	.08	-.07	.05	-.17	-.02	.06	.04	-.07
						Appliance Repair						
7459	20	.93		.30	-.78	.23	-.47	.51	.16	.21	.16	.16
				.41	-.29	.19	.17	.70	.32	.33	.32	.07
						Auto Service						
7407	24	.55		-.47	.09	.12	-.26	.33	.07	.06	-.01	.07
				-.34	.18	.28	.20	.33	.17	.14	.21	.14
7412	28	.73		.40	.15	.16	-.00	.05	.04	.17	.22	-.15
				.55	.46	.29	.32	.45	.56	.54	.51	.33
7424	38	.59		-.24	.23	.02	.27	.15	-.10	-.16	.47	-.09
				.06	.21	.31	.44	.37	.26	.27	.49	.35
7428	31	.86		-.21	.05	-.17	.32	.48	.14	-.23	.31	.13
				.36	.42	.49	.47	.74	.64	.45	.55	.43
7438	44	.60		.04	-.06	-.11	-.43	.05	.29	.12	.48	.08
				.10	.14	.03	.04	.20	.33	.17	.49	.29
7442	76	.50		.06	.14	.06	.17	.04	.18	-.12	-.13	.21
				.31	.37	.37	.35	.37	.42	.29	.30	.39
7453	36	.73		.23	-.19	.10	.31	-.23	-.05	.20	.28	.22
				.30	.22	.28	.55	.16	.31	.56	.50	.48
7455	45	.68		.10	-.04	-.12	.12	.03	.01	.33	.48	-.18
				.29	.18	.26	.51	.26	.37	.53	.61	.36

(Continued)

Table A4 (Continued)

School Code	N	Multiple R		CS	WK	AR	TK	SP	MC	SI	AI	EI
Aviation Mechanics												
7422	20	.73	Beta Weight	-.24	-.27	-.40	-.37	-.43	.40	.60	-.10	.76
			Validity	.10	-.06	.04	.19	.29	.36	.46	.22	.45
Body & Fender												
7453	21	.90		.26	.20	.21	1.02	-.11	-.27	-.25	-.14	.10
				.12	.26	.27	.80	.54	.12	.19	.29	.35
7455	25	.69		-.30	-.36	-.05	.54	-.12	.22	.30	.26	-.14
				.02	-.23	.13	.51	.09	.38	.27	.08	.27
Building Maintenance												
7453	24	.56		.47	.01	-.38	.17	.12	.17	-.03	-.20	.15
				.33	.15	.04	.31	.20	.40	.13	.02	.24
Building Trades												
7455	39	.42		-.11	.25	.01	.25	-.16	-.04	.23	.02	.02
				.01	.23	.11	.28	.09	.17	.28	.21	.25
Business Occupations												
7442	151	.44		.13	.24	.15	-.22	.09	-.09	-.18	.21	.01
				.20	.26	.21	-.17	.10	.04	-.06	.09	.03
7445	36	.72		-.01	.41	.39	-.26	-.03	.03	.31	-.24	.12
				.03	.57	.51	.07	.21	.36	.22	-.01	.23
7455	60	.52		-.02	.14	.36	-.18	.01	.08	.02	-.04	.05
				.19	.31	.47	-.20	.21	.31	-.02	-.17	-.06

(Continued)

Table A4 (Continued)

School Code	N	Multiple R		CS	WK	AR	TK	SP	MC	SI	AI	EI
						Carpentry						
7407	25	.59	Beta Weight	.34	.13	.10	.31	.05	-.57	-.32	.35	.53
			Validity	.26	.21	.18	.40	.16	.29	.35	.33	.46
7412	21	.77		-.21	-.20	.13	.32	-.01	.72	-.52	-.24	-.11
				-.33	-.15	.01	.20	.13	.46	-.17	-.05	-.02
7415	22	.51		-.25	-.35	.29	.04	-.11	-.46	.42	-.04	.46
				-.11	-.02	.05	.01	-.13	.03	.22	.26	.26
7438	52	.41		-.09	-.15	-.01	.07	.09	-.06	.15	.04	.31
				.02	.01	.07	.25	.14	.16	.24	.24	.32
7453	41	.58		.19	.00	-.07	-.35	.03	.22	.29	.11	.34
				.24	.14	.27	.15	.24	.34	.36	.27	.42
7455	29	.59		.03	-.09	-.11	.17	.04	.02	.01	-.31	.63
				.37	.26	.21	.21	.16	.19	.31	-.06	.50
						Child Care						
7442	71	.35		.16	.18	-.01	.04	.14	-.10	-.05	.07	.03
				.19	.25	.13	.10	.22	.11	.11	.18	.20
						Clerical Practices						
7415	26	.49		.28	.27	.20	.12	-.24	.09	-.16	-.06	-.10
				.25	.26	.15	-.04	-.16	-.09	-.21	-.11	-.06
7442	286	.46		.15	.08	.27	-.15	-.01	.12	-.10	.08	.06
				.24	.25	.36	-.03	.22	.24	.01	.16	.18
						Commercial Art						
7453	21	.82		.16	.24	-.14	-.51	.26	-.10	.44	.62	-.28
				.29	.31	.25	-.10	.43	.42	.49	.43	.02

(Continued)

Table A4 (Continued)

School Code	N	Multiple R		CS	WK	AR	TK	SP	MC	SI	AI	EI
						Conservation						
7442	22	.59	Beta Weight	-.19	.18	.39	-.16	.18	-.27	.08	-.36	.28
			Validity	.02	.27	.39	-.04	.29	-.06	.10	-.01	.27
						Cosmetology						
7407	33	.74		.36	.20	.14	-.31	-.29	.39	-.17	.20	-.11
				.38	.18	.22	-.39	-.04	.46	.01	.11	-.05
7453	47	.59		.34	.14	.21	-.02	.18	-.16	.10	.10	.07
				.47	.30	.38	.29	.30	.32	.24	.30	.25
7455	37	.66		.06	.12	.39	-.32	-.07	.21	.42	-.20	-.11
				.20	.46	.57	.08	.36	.35	.29	-.09	.06
						Data Processing						
7442	27	.69		.37	.23	-.21	-.46	.20	.07	-.01	-.08	.61
				.52	.35	.36	.11	.32	.26	.12	.12	.43
7455	23	.85		.45	-.13	-.08	-.10	.72	.24	-.07	.27	-.33
				.46	.27	.27	.21	.72	.37	.28	.30	.28
7459	43	.70		.08	.10	.12	.01	.17	.18	.02	-.01	.37
				.20	.30	.41	.33	.46	.55	.23	.38	.59
						Diesel Tractor						
7453	22	.82		-.14	.14	.27	.16	-.13	.52	.46	-.10	-.27
				.04	.25	.42	.36	.22	.64	.53	.09	.28
						Distributive Education						
7442	52	.49		.07	.37	-.37	-.31	.06	.15	.21	.11	.05
				.18	.34	.03	.02	.13	.19	.25	.17	.26

(Continued)

Table A4 (Continued)

School Code	N	Multiple R		CS	WK	AR	TK	SP	MC	SI	AI	EI
						Drafting						
7442	119	.36	Beta Weight	.03	.04	.05	.03	.19	.02	-.08	-.01	.15
			Validity	.15	.23	.26	.17	.32	.24	.13	.14	.30
7448	61	.63		.17	-.01	.15	.12	.23	-.03	.17	-.04	.19
				.30	.24	.37	.40	.53	.46	.41	.23	.44
7453	33	.62		.17	.14	.35	.02	.22	-.14	.23	-.16	-.27
				.40	.37	.53	.11	.33	.20	.06	.12	-.12
7454	24	.86		.01	-.25	.16	-.15	.79	.05	-.37	-.38	.63
				.42	.08	.51	.30	.66	.33	.26	.04	.46
						Electrical						
7407	84	.48		.25	-.10	.25	.06	.20	.18	-.30	.04	.01
				.26	.07	.33	.14	.23	.20	.04	.19	.14
7409	26	.85		.21	.34	.15	.18	-.12	.41	-.46	.32	.35
				.21	.50	.56	.24	.25	.60	.29	.37	.53
7412	30	.60		.35	.23	.21	.49	.24	-.54	-.22	.29	.02
				.33	.24	.03	.30	.03	-.03	.28	.23	.17
7415	32	.65		-.08	.04	-.24	.01	-.15	-.24	.58	-.17	.45
				.23	.14	-.02	.30	.03	-.06	.52	.21	.32
7438	53	.62		.22	-.05	-.06	-.02	.09	-.01	.36	.01	.23
				.45	.12	.22	.43	.23	.29	.50	.39	.46
7445	34	.85		-.15	-.05	.16	-.01	.06	.30	.34	.07	.28
				.18	.15	.35	.63	.35	.70	.72	.51	.74
7448	37	.58		.26	-.03	.17	-.26	.24	.01	.11	.08	.28
				.24	.28	.45	.17	.43	.34	.30	.23	.34

(Continued)

Table A4 (Continued)

School Code	N	Multiple R		CS	WK	AR	TK	SP	MC	SI	AI	EI
						Electrical (Cont'd)						
7453	48	.40	Beta Weight	.07	-.26	.15	-.24	.32	-.02	.41	-.18	-.13
			Validity	.06	-.07	.05	-.01	.15	.07	.19	-.04	-.01
7455	22	.74		.40	-.13	.19	.04	-.15	.35	.27	.24	.01
				.26	.21	.49	.34	.43	.49	.53	.44	.48
7459	26	.74		.03	-.07	.17	-.35	.43	.15	.22	-.24	.21
				.30	.22	.47	-.14	.62	.34	.32	.25	.46
						Electronics						
7415	23	.86		.02	.15	.24	-.15	-.37	-.39	.41	-.13	.80
				.35	.39	.47	.25	.10	-.03	.20	-.01	.69
7422	22	.64		.16	.27	.25	.22	-.24	.30	.13	.06	-.03
				.10	.20	.41	.47	.25	.47	.41	.12	.38
7428	22	.51		.03	.20	.43	.30	-.13	.01	-.33	.01	.03
				.01	.29	.35	.11	.05	.25	-.06	.12	.12
7442	87	.50		.13	.12	.11	.10	.24	-.09	.06	-.11	.14
				.24	.28	.33	.26	.42	.24	.26	.10	.30
7445	32	.67		-.03	-.13	.29	.01	.44	-.01	.46	.11	-.15
				-.06	.13	.20	.32	.54	.37	.41	.41	.43
7451	43	.56		-.07	-.07	-.45	.01	.19	.36	.38	-.06	.04
				-.14	.15	.01	.32	.28	.32	.39	.28	.28
7453	38	.69		.31	.08	.23	.04	-.29	.41	.33	-.29	.01
				.41	.33	.43	.33	.19	.48	.35	.13	.27
7455	25	.77		.45	.28	-.11	-.19	-.16	-.14	.06	.26	.16
				.30	.24	-.07	-.05	.01	.02	.26	.26	.22

(Continued)

Table A4 (Continued)

School Code	N	Multiple R		CS	WK	AR	TK	SP	MC	SI	AI	EI
						Exploratory						
7445	301	.47	Beta Weight	.25	.22	.06	.08	.10	.01	-.10	.01	.09
			Validity	.31	.37	.29	.15	.24	.24	.15	.18	.24
						Fashion Design						
7407	21	.77		.07	.54	-.33	.35	-.04	-.14	.26	-.28	-.15
				.18	.55	.01	.52	.34	.31	.29	-.34	.01
						Food Service						
7442	163	.49		.29	.19	-.02	-.11	.21	.02	.01	.02	.02
				.38	.31	.23	-.01	.28	.21	.09	.15	.18
						Graphic Arts						
7442	96	.58		.06	-.14	.01	.05	.30	.22	.15	-.25	.21
				.08	.13	.26	.35	.49	.43	.34	.19	.39
						Health Occupations						
7453	33	.56		.25	.22	.28	-.14	-.33	.21	.17	.12	-.16
				.18	.27	.32	.06	-.09	.12	-.22	.22	-.03
7455	25	.71		.30	.54	.04	.26	-.35	-.03	.03	.09	.26
				.22	.32	.33	.33	-.28	.13	-.06	-.02	.29
7458	20	.72		-.34	.13	-.19	-.20	.05	1.21	-1.11	.29	.16
				-.10	.22	.31	-.10	.13	.24	-.17	.08	-.06
7459	42	.78		.45	.53	.08	-.01	-.10	.02	.03	-.14	.21
				.49	.58	.37	.07	.32	.13	.10	.06	.43

(Continued)

Table A4 (Continued)

School Code	N	Multiple R		CS	WK	AR	TK	SP	MC	SI	AI	EI
						Horticulture						
7430	22	.71	Beta Weight	.30	-.07	.01	.30	.63	-.16	-.36	.10	-.28
			Validity	.39	.11	.37	.10	.53	.26	-.09	-.07	-.15
						Household Arts						
7438	51	.57		.40	.00	.21	-.14	-.16	.13	.17	.06	.01
				.45	.30	.30	-.01	.05	.23	.22	.17	.23
						Machine Shop						
7407	20	.81		-.26	.55	.30	.41	.09	-.73	.21	-.04	-.02
				.05	.64	.55	.53	.27	.24	.47	.35	.22
7438	47	.63		.09	-.27	.47	.52	-.35	.14	-.46	.07	.30
				.18	.07	.35	.34	.06	.28	.12	.24	.26
7448	55	.60		-.05	.08	.48	.34	.15	-.22	.03	.05	-.01
				.12	.24	.50	.34	.16	.21	.28	.29	.26
7454	23	.65		.06	.13	.24	.61	.38	-.57	.19	.27	-.08
				.29	.26	.39	.42	.49	.36	.27	.43	.37
7455	82	.45		.13	-.21	-.11	.12	-.10	.18	.27	.21	-.11
				.27	.12	.18	.28	.16	.31	.33	.36	.23
						Maintenance Mechanic						
7459	27	.79		.38	.26	.09	.35	.53	.17	-.16	-.57	-.23
				.27	.34	.32	.07	.52	.24	.01	-.14	.10
						Masonry						
7407	20	.84		.35	-.28	-.36	.85	.95	-.58	-.46	-.25	-.05
				.31	-.28	.11	.21	.33	-.07	-.16	.23	-.18

(Continued)

Table A4 (Continued)

School Code	N	Multiple R		CS	WK	AR	TK	SP	MC	SI	AI	EI
						Masonry (Cont'd)						
7412	23	.52	Beta Weight	.21	-.30	-.03	.49	-.10	.01	-.01	.01	-.21
			Validity	.29	-.24	-.05	.33	.15	.06	.15	.06	.05
7454	26	.45		-.34	-.05	.10	-.16	-.09	.28	-.28	-.13	.24
				-.28	.06	.08	-.19	.03	.05	-.17	-.09	.02
7459	26	.48		.32	-.36	-.03	.26	-.12	-.19	-.18	-.07	.54
				.13	-.22	-.05	.22	.01	.12	-.13	.12	.10
						Nursing						
7430	31	.79		.43	.30	.17	.02	.30	-.21	.36	.01	-.02
				.59	.53	.47	.17	.33	.35	.32	.23	.35
						Painting and Decorating						
7442	25	.81		.04	.38	.51	.44	-.25	.23	.11	-.47	-.48
				.29	.58	.60	.12	.18	.33	-.01	-.11	.03
						Plumbing						
7407	24	.59		.23	.24	-.25	.15	-.12	.42	.29	.13	-.17
				-.03	.46	.05	.23	.25	.39	.34	.37	.31
7412	21	.42		.20	.06	-.24	.31	.19	-.46	-.37	.48	-.01
				.02	.20	-.04	.11	.09	.01	.07	.27	.02
						Printing						
7453	26	.44		.17	-.24	.39	.32	-.34	-.01	.26	-.01	-.14
				.06	.06	.21	.22	-.03	.13	.17	.17	.11

(Continued)

Table 14 (Continued)

School Code	N	Multiple R		CS	WK	AR	TK	SP	MC	SI	AI	EI
						Restaurant Management						
7453	32	.59	Beta Weight	-.01	.46	-.28	-.30	.17	-.01	.37	.10	-.17
				.06	.38	.10	-.10	.28	.39	.36	.35	.23
						Small Engine Repair						
7442	52	.56		-.01	-.10	.35	.37	.12	-.23	-.20	.07	.35
				.16	.20	.38	.35	.40	.33	.33	.39	.39
7459	25	.47		-.06	-.09	.31	-.03	.37	-.03	-.04	.10	.01
				-.15	-.01	.27	.12	.32	.20	.12	.21	.08
						Tailor						
7442	99	.60		.13	.07	.28	-.16	.09	.09	-.13	.12	.19
				.36	.38	.52	.07	.31	.31	.08	.27	.42
						Welding						
7415	23	.85		.42	.28	-.03	.35	-.37	.30	.08	-.25	.09
				.72	.67	.62	.43	.25	.64	.62	.43	.76
7430	38	.58		-.29	.01	.27	.18	-.01	-.07	.57	-.12	.02
				.22	.32	.32	.39	.17	.29	.52	.40	.31
7455	24	.61		-.29	.40	.46	.34	-.08	.04	.17	.35	-.29
				-.18	.08	.18	.28	.04	.08	.24	.32	-.08
						Wood & Metal						
7442	171	.30		.01	-.03	.03	.27	-.08	.01	-.03	-.02	.13
				.08	.05	.13	.28	.10	.15	.19	.17	.21

Table A5. Full and Restricted Model RSQ's, F-Values, and Probability Levels

Vo-Tech Category	N	RSQ Full Model	RSQ Restricted Model	DF1	DF2	F-Value	Probability	Selector Composite
Air Conditioning	97	.12	.04	9	88	.97	NS	GM
Appliance Repair	62	.38	.18	9	53	1.94	NS	GM
Auto Service	476	.21	.15	9	467	4.04	**	MM
Aviation Mech	37	.31	.14	9	28	.80	NS	MM
Body & Fender	129	.18	.06	9	120	1.93	NS	GM
Building Maint	33	.19	.06	9	24	.43	NS	GM
Building Trades	83	.12	.07	9	74	.45	NS	GM
Business Occ	265	.13	.13	9	256	1.93	*	CL
Carpentry	258	.11	.05	9	249	1.83	NS	GM
Child Care	79	.15	.05	9	70	.98	NS	GT
Clerical Practices	340	.18	.10	9	331	3.99	**	CL
Conservation	23	.31	.13	9	14	.39	NS	GT
Cosmetology	159	.22	.14	9	150	1.70	NS	GT
Data Processing	159	.17	.07	9	150	1.95	*	EL
Diesel Tractor Mech	51	.32	.13	9	42	1.29	NS	MM
Distributive Ed	89	.14	.06	9	80	.87	NS	GT
Drafting	373	.19	.11	9	364	4.22	**	GT
Electrical	468	.16	.12	9	459	2.81	**	EL
Electronics	431	.10	.02	9	422	4.06	**	EL
Exploratory	304	.22	.14	9	295	2.99	**	GT
Fashion Design	23	.62	.09	9	14	2.19	NS	GT
Food Services	250	.18	.06	9	241	3.96	**	GT
Graphic Arts	159	.20	.04	9	150	3.34	**	GT
Health Occup	170	.30	.14	9	161	4.06	**	GT
Horticulture	64	.30	.11	9	55	1.62	NS	GT
Household Arts	64	.12	.05	9	55	.49	NS	GT
Jewelry	29	.47	.04	9	20	1.81	NS	GT
Journalism	36	.64	.23	9	27	3.40	**	GT
Machine Shop	345	.13	.05	9	336	3.31	**	GM
Maintenance Mech	56	.44	.31	9	47	1.20	NS	GM
Masonry	116	.18	.003	9	107	2.57	**	GT
Nursing	31	.62	.32	9	22	2.00	NS	GT
Painting & Decor	26	.60	.002	9	17	2.85	*	GT
Plumbing	101	.23	.08	9	92	2.09	*	GM
Printing	102	.11	.01	9	93	1.16	NS	GM
Restaurant Manag	39	.39	.06	9	30	1.81	NS	GT
Small Engine Repair	86	.26	.12	9	77	1.70	NS	MM
Tailor	148	.46	.31	9	139	4.35	**	GT
Welding	147	.32	.24	9	138	1.77	NS	GM
Wood & Metal	185	.11	.05	9	176	1.40	NS	GM

* Difference significant at .05 level
** Difference significant at .01 level
NS Difference not significant

Current ASVAB Composites

General Technical (GT) = AR + WK
Clerical (CL) = WK + 1/3 CS
General Mechanical (GM) = SP + 2SI
Electronics (EL) = MC + 2EI
Motor Mechanical (MM) = MC + 2AI

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